SEDIMENT CONTROL FOR SITE DESIGN

Treatment Trains & Phased Plans

Session Objectives

- A treatment train is a **sequence** of sediment controls
- SESC design is an **iterative** process
- **Visit** the project site!

Treatment Trains

- “Treatment” implies the removal of stormwater volume or pollution that has already been generated
- SESC (Sediment Control portion of SESC)
- Utilizes 2 or more processes to maximize control of pollutants from site runoff
- Different processes achieve different goals… commonly:
  - Minimizing runoff rate
  - Removing / filtering suspended solids and other pollutants

An Iterative Process

Identify project goals

- Site conditions
- Regulatory requirements

Consider BMP options

- Phasing
- Combinations

Consider site constraints

- Space
- Soil type
- Topography
- Sensitive areas

Choose and implement BMPs

- Which BMPs are most applicable?

Assess performance

- Operating as designed?
- Properly maintained?

Make necessary changes

- **Visit the site**

Detention basin + temporary riser + compensatory storage basin + double row silt fence + rip rap apron + ditch checks =

no sediment leaving the site

Phased SESC Plans

- **Timing** is key
  - Include BMPs as part of demolition / existing conditions plan
    - Phasing will impact the EOPC
  - Discuss expectations at pre-con meeting
    - Proper installation & maintenance of BMPs
    - Construct stormwater management systems first
- Dewatering, Cofferdams, Silt Curtains


KOMATSU

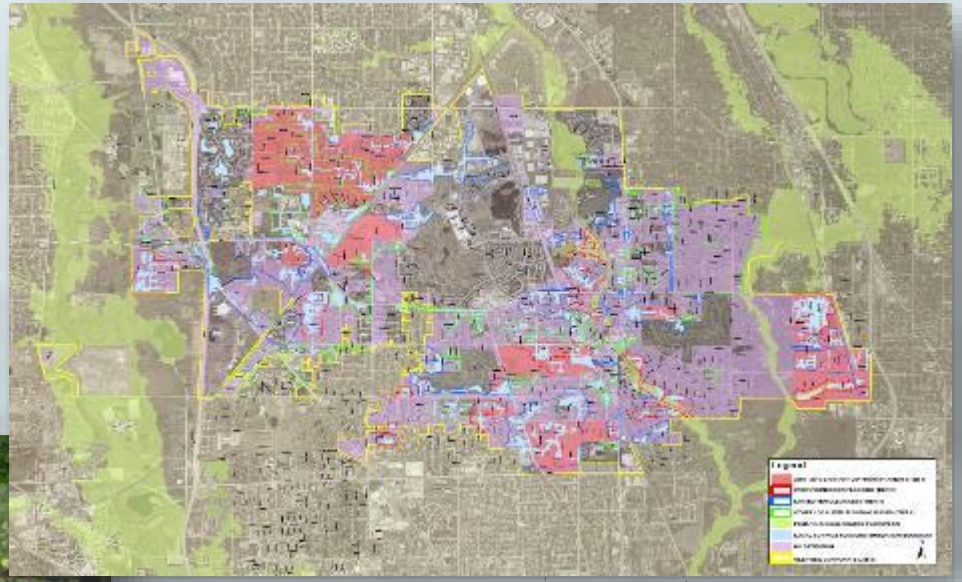

KOMATSU

Case Study Glenview Park Golf Club

- The Big Picture
- Watershed Review

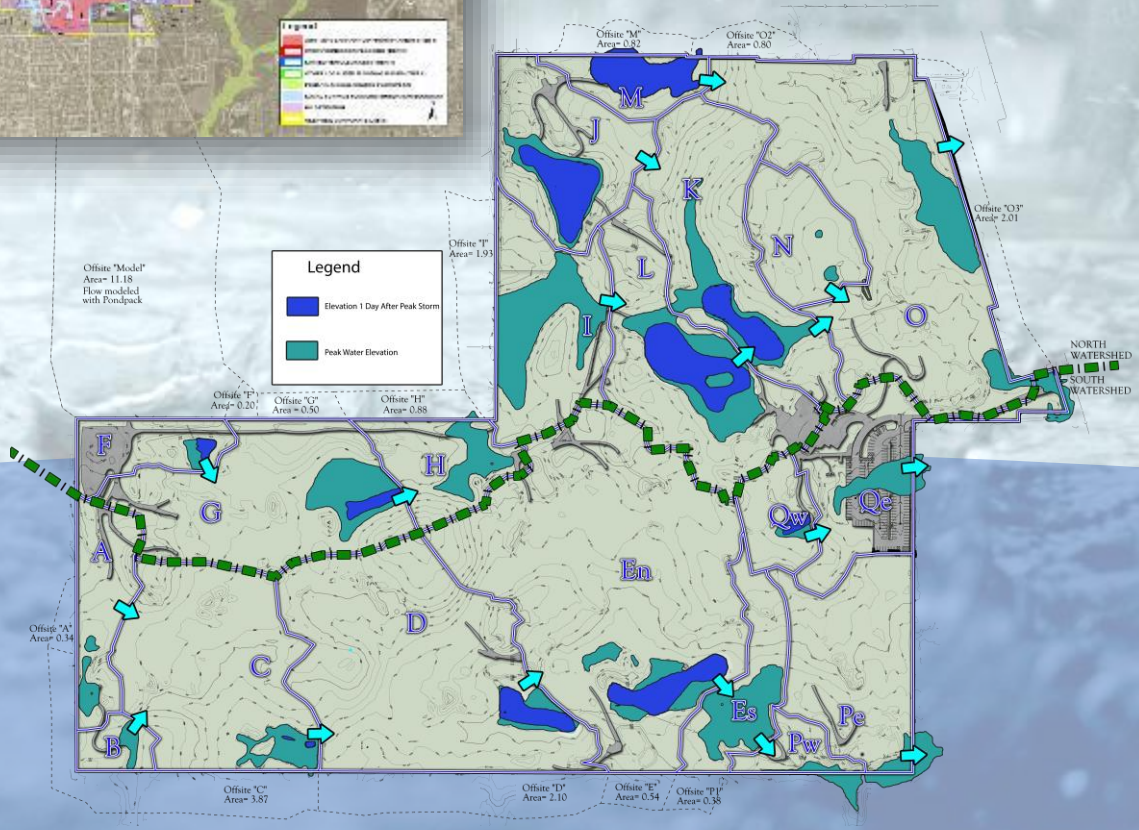
Case Study
GPGC

2010 Village Stormwater Task Force

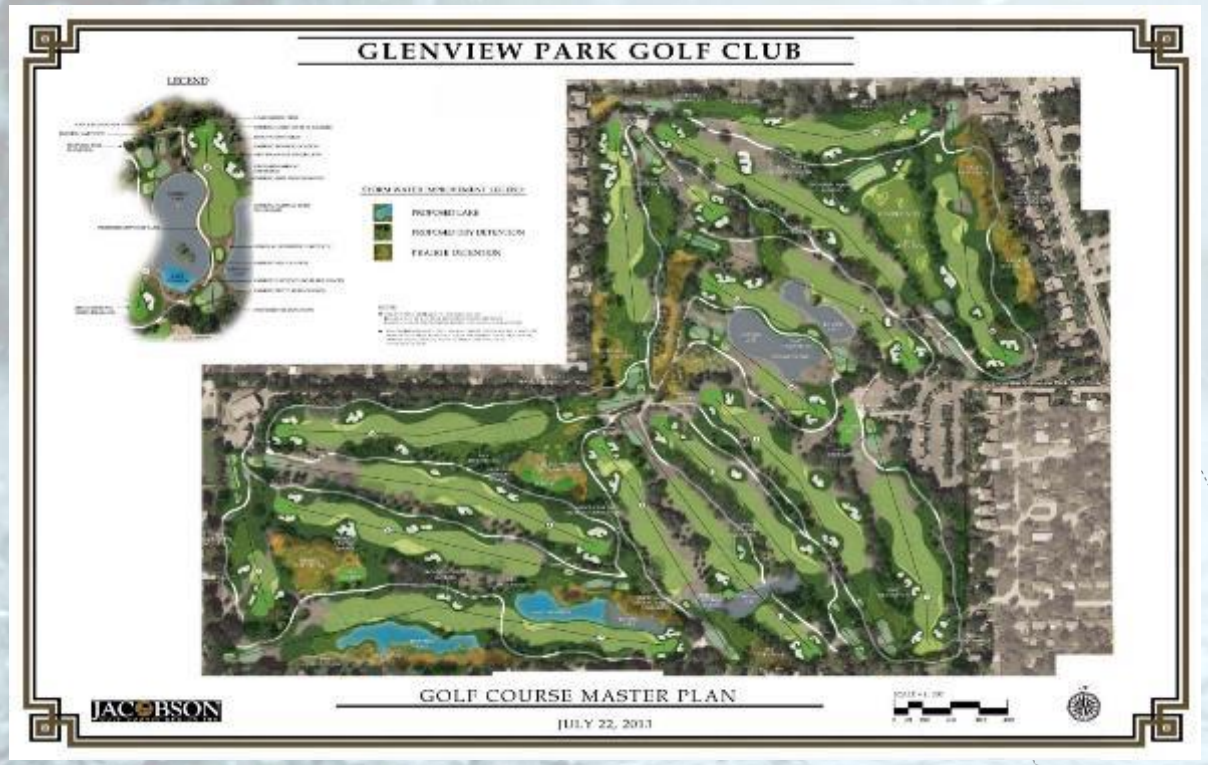


2008 Flooding Event

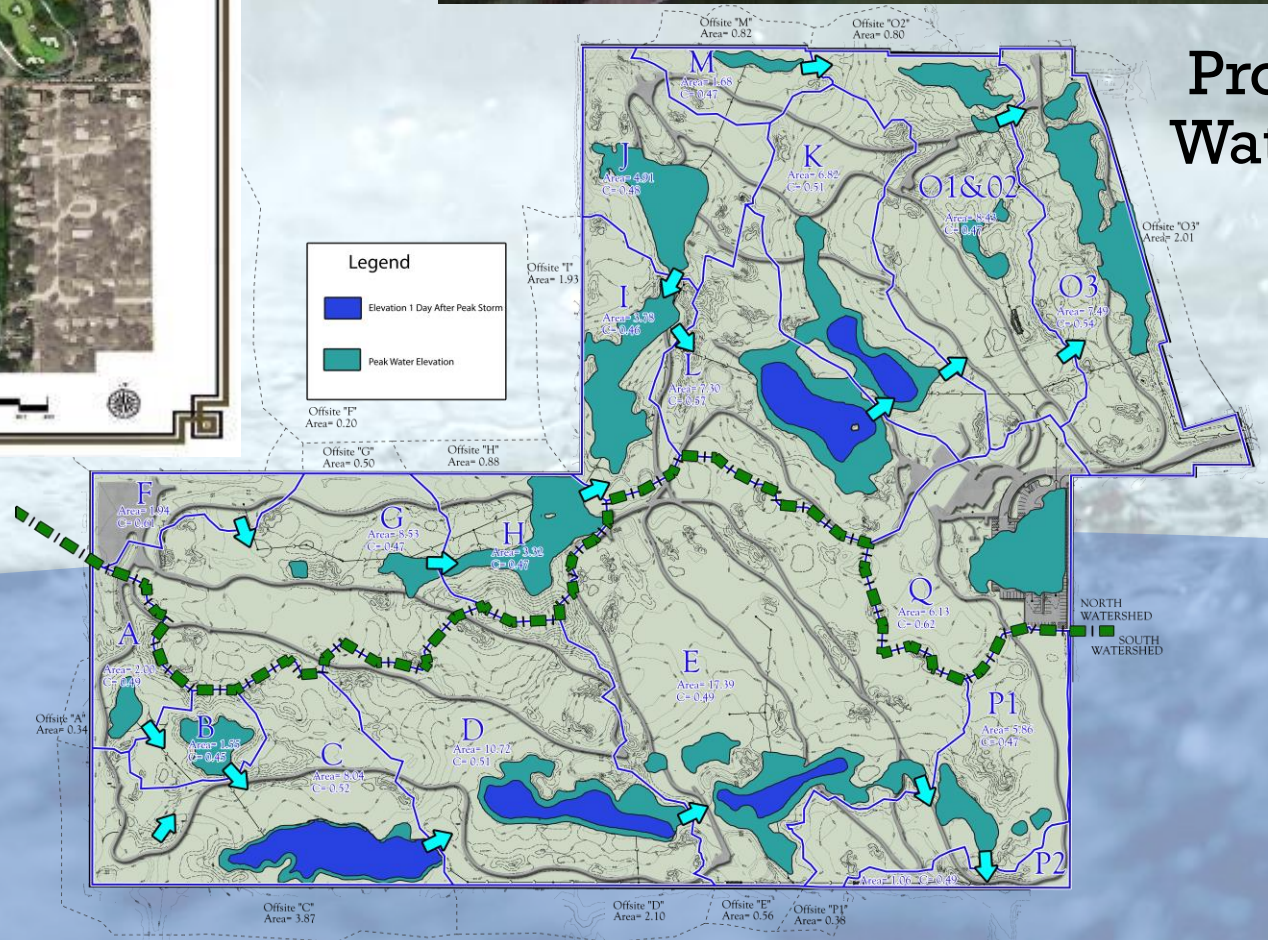
Existing Watershed



Case Study GPGC



Master Plan



Proposed Watershed

Case Study GPGC

EROSION CONTROL / SITE CONSTRUCTION SEQUENCE PLAN

WORK AREA 1 (COMPLETE SITE) – INITIAL EROSION CONTROL IMPROVEMENTS

1) INSTALL PERIMETER SILT FENCE AROUND ENTIRE GOLF COURSE SITE AS SHOWN ON EROSION CONTROL PLAN (SHEET C8A).
2) INSTALL CONSTRUCTION ENTRANCE AT SHERMER ROAD ENTRANCE AND MAINT. ACCESS.
3) INSTALL ADDITIONAL EROSION CONTROL MEASURES (CONCRETE WASHOUT, FILTER BASKETS, & COIR LOGS AROUND ALL EXISTING DRAINAGE STRUCTURES ON SITE.
4) INSTALL SILT FENCE AROUND ALL EXISTING DETENTION BASINS AT DESIGN HIGH WATER LEVEL LINE.
5) INSTALL SEDIMENT CONTROL STRUCTURE (SEDIMENT TANK) AT NORTHEAST CORNER OF SITE TO SERVE AS NORTH AREA EROSION CONTROL MANAGEMENT STRUCTURE. SEE DETAIL X ON SHEET C12 FOR MORE INFORMATION.
6) INSTALL SEDIMENT CONTROL STRUCTURE (SEDIMENT BASIN) TO SERVE AS SOUTH OUTFLOW EROSION CONTROL MANAGEMENT STRUCTURE. SEE DETAIL X ON SHEET C12 FOR MORE INFORMATION.

WORK AREA 2 (COMPLETE SITE) – STORM SEWER INSTALLATION

1) INSTALL NEW STORM SEWER AND DRAINAGE STRUCTURES THROUGHOUT PROJECT SITE, BEGINNING AT OUTFALL LOCATIONS.
2) INSTALL FLOCK LOGS IN MANHOLES S-Y2 AND S-R2 AS SHOWN IN DETAIL ON SHEET C13.
3) AS NEW STORM SEWERS AND DRAINAGE STRUCTURES ARE INSTALLED THROUGHOUT GOLF COURSE, INSTALL FILTER BASKETS, COIR LOGS AND HYDROSEED / BLANKET OVER ALL UTILITY TRENCHES.

WORK AREA 3 (NORTH) – WATERSHED 03 (7.50 ACRES OF DISTURBED AREA)

1) GRADE WORK AREA PER PLAN.
2) INSTALL TEMPORARY EROSION CONTROL RISERS AT DRAINAGE STRUCTURES WITHIN WORK AREA AFTER COMPLETION OF FINAL GRADING.
3) INSTALL EROSION CONTROL FABRIC OVER FINAL GRADING
4) CLEAN NORTH EROSION CONTROL MANAGEMENT STRUCTURE OF SEDIMENT AT CONCLUSION OF WORK IN AREA.

WORK AREA 3 (SOUTH) – WATERSHED P1 & P2 (6.93 ACRES OF DISTURBED AREA)

1) GRADE WORK AREA PER PLAN
2) INSTALL TEMPORARY EROSION CONTROL RISERS AT OUTFALL STRUCTURES WITHIN WORK AREA AFTER COMPLETION OF FINAL GRADING.
3) INSTALL EROSION CONTROL FABRIC OVER FINAL GRADING
4) CLEAN SOUTH EROSION CONTROL MANAGEMENT STRUCTURE OF SEDIMENT AT CONCLUSION OF WORK IN AREA.

WORK AREA 4 (NORTH) – WATERSHEDS O1, O2, & K (18.26 ACRES OF DISTURBED AREA)

1) GRADE WORK AREA PER PLAN.
2) INSTALL TEMPORARY EROSION CONTROL RISERS AT DRAINAGE STRUCTURES WITHIN WORK AREA AFTER COMPLETION OF FINAL GRADING.
3) INSTALL EROSION CONTROL FABRIC OVER FINAL GRADING
4) CLEAN NORTH EROSION CONTROL MANAGEMENT STRUCTURE OF SEDIMENT AT CONCLUSION OF WORK IN AREA.

WORK AREA 4 (SOUTH) – WATERSHED E (17.38 ACRES OF DISTURBED AREA)

1) GRADE WORK AREA PER PLAN.
2) INSTALL TEMPORARY EROSION CONTROL RISERS AT DRAINAGE STRUCTURES WITHIN WORK AREA AFTER COMPLETION OF FINAL GRADING.
3) INSTALL EROSION CONTROL FABRIC OVER FINAL GRADING
4) CLEAN SOUTH EROSION CONTROL MANAGEMENT STRUCTURE OF SEDIMENT AT CONCLUSION OF WORK IN AREA.

WORK AREA 5 (NORTH) – WATERSHEDS M, J, I, & L (17.67 ACRES OF DISTURBED AREA)

1) GRADE WORK AREA PER PLAN.
2) INSTALL TEMPORARY EROSION CONTROL RISERS AT DRAINAGE STRUCTURES WITHIN WORK AREA AFTER COMPLETION OF FINAL GRADING.
3) INSTALL EROSION CONTROL FABRIC OVER FINAL GRADING
4) CLEAN NORTH EROSION CONTROL MANAGEMENT STRUCTURE OF SEDIMENT AT CONCLUSION OF WORK IN AREA.

WORK AREA 5 (SOUTH) – WATERSHED D (10.72 ACRES OF DISTURBED AREA)

1) GRADE WORK AREA PER PLAN.
2) INSTALL TEMPORARY EROSION CONTROL RISERS AT DRAINAGE STRUCTURES WITHIN WORK AREA AFTER COMPLETION OF FINAL GRADING.
3) INSTALL EROSION CONTROL FABRIC OVER FINAL GRADING
4) CLEAN SOUTH EROSION CONTROL MANAGEMENT STRUCTURE OF SEDIMENT AT CONCLUSION OF WORK IN AREA.

WORK AREA 6 (SOUTH) – WATERSHEDS A, B & C (11.59 ACRES OF DISTURBED AREA)

1) GRADE WORK AREA PER PLAN.
2) INSTALL TEMPORARY EROSION CONTROL RISERS AT DRAINAGE STRUCTURES WITHIN WORK AREA AFTER COMPLETION OF FINAL GRADING.
3) INSTALL EROSION CONTROL FABRIC OVER FINAL GRADING
4) CLEAN SOUTH EROSION CONTROL MANAGEMENT STRUCTURE OF SEDIMENT AT CONCLUSION OF WORK IN AREA.

WORK AREA 7 (SOUTH) – WATERSHEDS F & G (10.47 ACRES OF DISTURBED AREA)

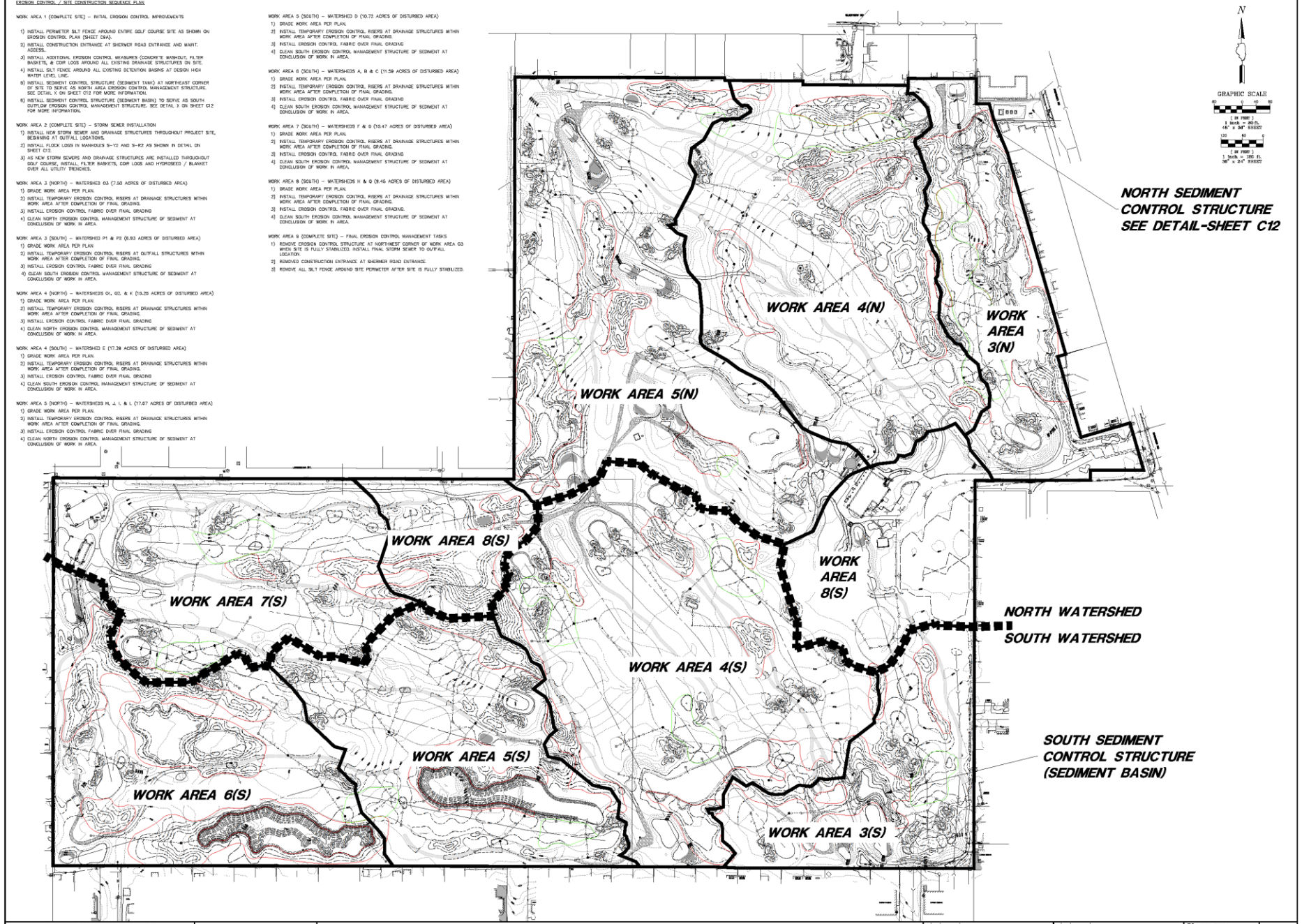
1) GRADE WORK AREA PER PLAN.
2) INSTALL TEMPORARY EROSION CONTROL RISERS AT DRAINAGE STRUCTURES WITHIN WORK AREA AFTER COMPLETION OF FINAL GRADING.
3) INSTALL EROSION CONTROL FABRIC OVER FINAL GRADING
4) CLEAN SOUTH EROSION CONTROL MANAGEMENT STRUCTURE OF SEDIMENT AT CONCLUSION OF WORK IN AREA.

WORK AREA 8 (SOUTH) – WATERSHEDS H & Q (9.46 ACRES OF DISTURBED AREA)

1) GRADE WORK AREA PER PLAN.
2) INSTALL TEMPORARY EROSION CONTROL RISERS AT DRAINAGE STRUCTURES WITHIN WORK AREA AFTER COMPLETION OF FINAL GRADING.
3) INSTALL EROSION CONTROL FABRIC OVER FINAL GRADING.
4) CLEAN SOUTH EROSION CONTROL MANAGEMENT STRUCTURE OF SEDIMENT AT CONCLUSION OF WORK IN AREA.

WORK AREA 9 (COMPLETE SITE) – FINAL EROSION CONTROL MANAGEMENT TASKS

1) REMOVE EROSION CONTROL STRUCTURE AT NORTHWEST CORNER OF WORK AREA 03 WHEN SITE IS FULLY STABILIZED. INSTALL FINAL STORM SEWER TO OUTFALL LOCATION.
2) REMOVED CONSTRUCTION ENTRANCE AT SHERMER ROAD ENTRANCE.
3) REMOVE ALL SILT FENCE AROUND SITE PERIMETER AFTER SITE IS FULLY STABILIZED.



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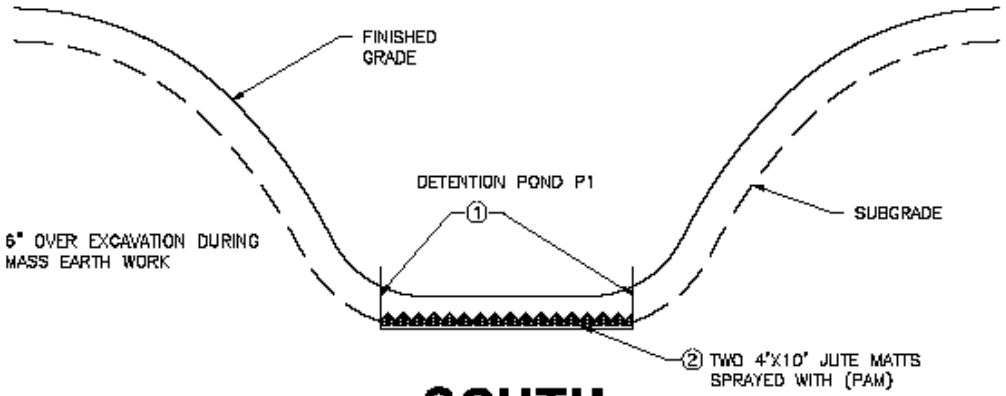
SEQUENCE PLAN

GOLF COURSE DRAINAGE IMPROVEMENTS
GLENVIEW PARK GOLF CLUB
VILLAGE OF GLENVIEW, ILLINOIS

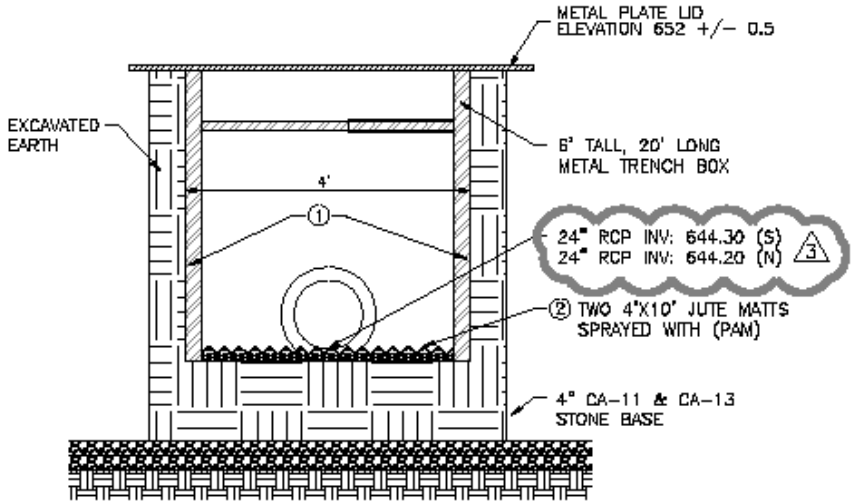
NO.	BY	DATE	REVISION
3	PJS	3-6-14	PER GHA REVIEW
2	PJS	1-14-14	PER AHBG REVIEW COMMENTS
1	PJS	12-18-13	PER AHBG REVIEW COMMENTS

FILE: 4412.213-SEQ01.dwg
DRAWN BY: PJS
DATE: 8-16-13
GHA PROJECT #: 4412.213
CHECKED BY: TAR
DATE: 8-16-13
SCALE: 1"=80'

SHEET NUMBER: C10
of 16 SHEETS



SOUTH



NORTH

NOTES:

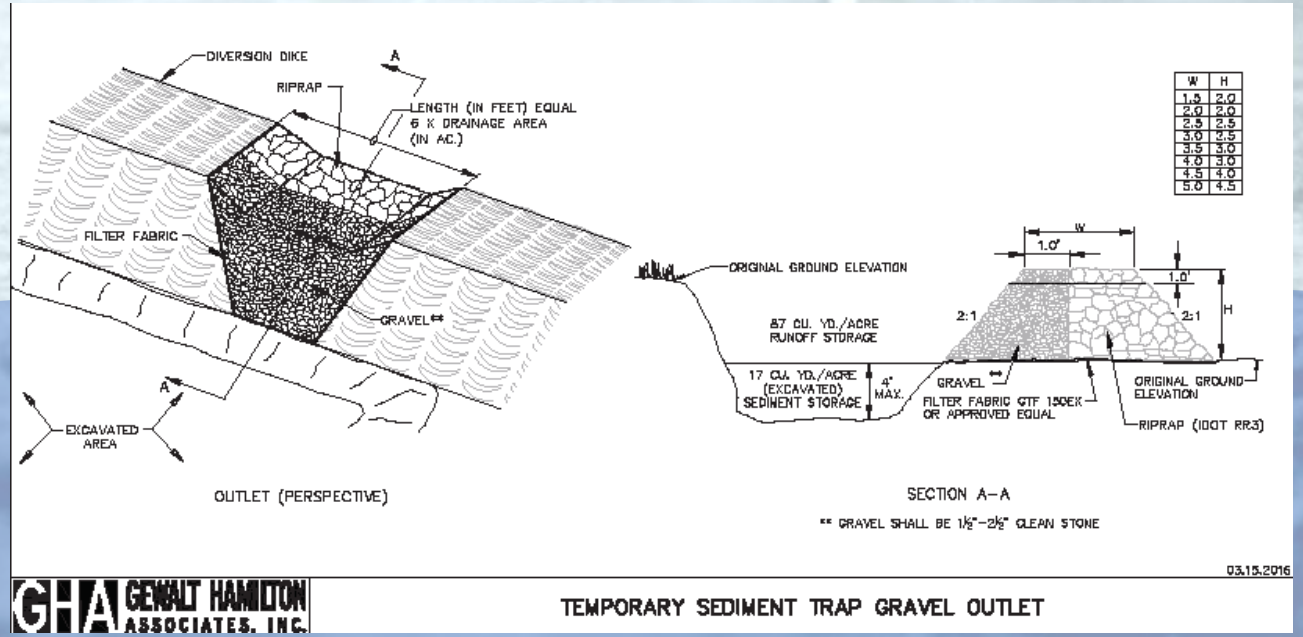
1. THESE CHANNELS SHALL BE CONSTRUCTED COINCIDING WITH STORM SEWER INSTALLATION. EACH INSTALLED IN AN OVER EXCAVATION 6" BELOW POSITIVE DRAINAGE.
2. INSTALL TWO 4'X10' JUTE YARN MATT SPRAYED WITH POLYACRYLAMIDE (PAM) AS RECOMMENDED BY THE SUPPLIER.
3. REPLACE CHANEL LINING AS RECOMENDED BY THE SOIL EROSION AND SEDIMENT CONTROL INSPECTOR.

SEDIMENT CONTROL STRUCTURE

Project Sequence:

Over-Excavation

Jute-Yarn Mat with PolyAcrylaMide (PAM)



Takeaways

- Treatment Trains – Sequence of Sediment Controls
- SESC Design is an Iterative Process
- Visit the project site !